ABSTRACT

ISOLATION AND CHARACTERIZATION OF OMEGA-3 FROM FISHERY INDUSTRY WASTE

Literature Review

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Industrial fish waste treatment, only 5% of which was utilized fish waste such as head, intestines and skin to produce animal feeds. Fish waste still contains beneficial compounds, such as omega-3. The omega 3 compound is *Docosahexaenoic acid* (DHA), *Eicosapentaenoic acid* (EPA), and alpha-linolenic acid (ALA). The purpose of the literature review is to review omega-3 randals that can be obtained from isolation and extraction from alternative sources of fish waste, to review extraction and isolation in obtaining omega-3 from various kinds of fish waste, and to review omega-3's characteristics. The literature review method uses the scoping method by noting the inclusive criteria. Several studies have found that the highest levels of omega 3 on *Sardinella longiceps* with EPA content $24.74 \pm 1.60\%$ and DHA $26.02 \pm 2.93\%$ of ala content. There are several methods of extract including Folch, Soxhlet, SCF-CO_2, *Bligh and Dyer*, schlechtriem, cequier-sanchez, and using hexane solvents as solvents. The best method that can be used is Supercritical Fluid Extraction-CO_2. The method of isolation that can be used is the combination of urea complexity and column chromatography. Omega-3 analysis with GC-FID, FT-IR, and NMR.

Keywords : Omega-3, extraction, isolation, characterization, fishery industry waste.